DOCUMENT RESUME

ED 260 992 SO 016 781

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TITLE Is This Curriculum Fit for Teachers?
PUB DATE 85
NOTE 29p.; Paper presented at the Annual Meeting of the American Educational Research Association (69th, Chicago, IL, March 31-April 4, 1985).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Comparative Education; *Curriculum Development; Decision Making; Educational Practices; Educational Research; Elementary Secondary Education; Foreign Countries; *Professional Autonomy; *Program Implementation; Teacher Participation; *Teacher Role
IDENTIFIERS *Israel

ABSTRACT

A sample of curriculum projects representing the first generation of new curricula in Israel was analyzed, using an instrument developed to determine the implicit or explicit message regarding the teacher's role in curriculum development and use. Curriculum development in Israel is moving from a centralized approach to greater involvement of teachers in the process. This study was undertaken to raise the sensitivity of curriculum developers and teachers to factors in the curriculum materials that may shape the nature of that interaction. The instrument uses four major categories for analysis: (1) information about developers' considerations and deliberations regarding curricular decisions; (2) expected involvement of teachers as partners in the curriculum enterprise; (3) teachers' professional credibility in the developers' eyes; and (4) teachers' assigned role in instruction. The analysis revealed an image of Israeli teachers as consumers of centrally developed curricula, who are expected to exercise limited autonomy in curriculum implementation, mainly in choice making. The main responsibility assigned to teachers in these projects is to organize instruction so as to achieve curriculum objectives. (RM)

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Is this Curriculum fit for teachers?

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Paper presented at the annual meeting of AERA,

Chicago, 1985

SP 016 781

The major goal of this study was to identify curriculum components related to the expressions of developers' views of teachers and teacher roles in the curriculum endeavour. More specifically the objectives were:

- to elaborate a framework and an instrument for curriculum analysis which specifies expressions of possible teacher autonomy and involvement as partners in curriculum development and use, which may be found in curriculum materials such as guidelines and teacher handbooks.

- to analyze and compare curricula to determine their teacher implementation autonomy profile (TIAP).

- to suggest ways to use the framework and instrument in curriculum development, implementation, teacher education and staff development.

Perspectives

Teachers have been required to play alternative roles in implementation of curricular innovations. (Connelly and Ben-Peretz, 1980; Fullan, 1982). They have been viewed as faithful transmittors of curricular ideas introduced into schools through outside agencies. Another view recognizes the considerable influence teachers have on implementation of curricular ideas (Berman and McLaughlin, 1977, 1978). A, yet, third approach to the interaction between teachers and materials assumes teachers to be full partners in the process of curriculum development as "user-developers" (Connelly, 1972), and as creative interpreters of curricular guidelines and materials (Ben-Peretz 1975, Ben-Peretz et al 1982), using a mutual adaptation perspective (Fullan and Pomfret, 1977). In various circumstances teachers are expected to function either as autonomous consumer of ready made curricula or as producers of their own curricula (Silberstein, 1984). Schwab (1983) claims that teachers must be involved in deliberations and decisions about what and how to teach. One of the ways of involving teachers in this effort is through inquiry carried out by teachers who are introduced to innovative curricula (Connelly, 1979). Teachers' understanding of the nature of the curricular

innovation and the reasons for its specific characteristics is crucial if teachers are to act as decision makers in curriculum implementation.

This paper presents an elaboration of the notion of teachers as partners in curriculum development and use, suggesting the following categories for curriculum analysis:

I. Information about developers' considerations and deliberations regarding curricular decisions.

II. Expected involvement of teachers as partners in the curriculum enterprise.

This category has two dimensions:

1) teachers' anticipated involvement in choice making behaviours

2) teachers' anticipated involvement in the construction of curricular materials

III. Teachers' professional credibility in the developers' eyes.

This category has two dimensions:

1) teachers' image as subject matter experts

2) teachers' image as pedagogic experts

IV. Teachers' assigned role in instruction

An instrument for curriculum analysis was devised on the basis of these categories. Through the use of this instrument it is possible to arrive at the Teacher Implementation Autonomy Profiles (TIAP) of diverse curricula.

Curriculum analysis guided by the conceptual framework on which the instrument is based provides a possible link between the notion of teacher autonomy and the professional activities carried out daily by teachers. Teachers use syllabi, curriculum guidelines and curriculum materials in their lesson planning and teaching. They are actively engaged in

curriculum implementation whether they speak the "language of curriculum" or are unfamiliar with it. These curricula may be introduced into schools from outside, such as centrally developed curriculum packages. Conversely, the curricula in use may be the product of school based curriculum development (Skilbeck 1984). In both cases the curricula carry an implicit or explicit message regarding teachers role, in the implementation process. This paper is an attempt to reduce this complex message into separate components, each of which is perceived to be related to the notion of teacher autonomy in the curriculum endeavour.

Methodology

The scheme of analysis is composed of the categories mentioned above. Category 1 - Information about developers considerations and deliberations regarding curricular decisions. This category is based on the notion that awarness to the reasons leading to certain curricular decisions by the developers, is essential if teachers are to exercise their own judgement as to the validity of these decisions in their specific educational situation. Three components are included in this category:

1) information level index which is expressed by the ratio of curricular considerations, found in the curriulum, to curricular decisions made by the developers $\frac{\text{curricular considerations}}{\text{curricular decisions}} = \text{information level index}$

Curricular considerations are defined as any reason or cause given for the curricular decisions to be found in guidelines or teacher guides. Curricular decisions can be presented to teachers in the following areas:

- chosen content

- recommended instructional strategies
- suggested learning context including given time allocations

Findings are presented on continuum of a five degree scale. The low pole of the scale (Ø) indicates, none of the curricular decision was found to be accompanied by reasons while the high pole of the scale (5) indicates, all of the curricular decisions were found to be accompanied by reasons.

```
Ø----------1----------2----------3----------4----------5
no                                                  full
information                                     information
given                                             given
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If more then one reason or cause is given for any decisions made by curriculum developers the index will still be considered to equal 1 (no. 5 on the scale).

2. Decision areas. Each decision presented to teachers may be classified according to its appropriate area. The areas are; content, instructional strategies and learning context. Any curricular decision not to be classified in these areas is noted as "other". Results of the classification are expressed in percentages.

3. Consideration and deliberation sources. The roots or origins of reasons or causes given for curricular decisions, may be perceived as related to the four curriculum commonplaces, namely; subject matter, learner, teacher or milieu. Any reason or cause which cannot be categorized using the four commonplaces, is noted as "other". Results are calculated in percentages.

Category II Expected involvement of teachers as partners in the curriculum enterprise

This category is based on the notion that teachers may be expected by

curriculum developers to act as faithful implementers or as autonomous consumers and choicemakers of externally developed curricula. Teachers may also be expected, more or less, to develop their own curriculum materials (Silberstein 1984). Therefore two dimensions are suggested in this category.

Dimension one: Teachers choice opportunities incorporated in the curriculum. The level of allocated freedom for choice will be determined on a 5 point scale, taking into consideration the following components as descriptors for the range of choices explicitly offered to teachers:

a) scope of choices; Scope of choices ranges from choice in emphasis or focus on a certain content in a ready made curriculum material (No. 1 on scale) to choice of a whole package of curriculum materials within the framework of a given curriculum guidelines (No. 5 on the scale).

1 - choice of emphasises or focuses
2 - choice of parts of chapters (learning activities)
3 - choice of whole chapters
4 - choice of modules
5 - choice of whole curriculum packages.

It seems intrinsic to the educational situation that teachers tend to make choices at point 1, 2 or even 3 of the scale even if these choices are not explicitly suggested. Choices at point 4 or 5 are not an integral component of schooling, unless specifically incorporated in the curriculum of the school.

b) amount of opportunities for choice. The amount of choice is noted on a scale ranging from 1 - few opportunities for choice to 5 - many

opportunities for choice suggested in the curriculum.

c) variability of choices: Curricula may differ on the kind of chices suggested to teachers. They may limit or extend the available choices to any of the following elements; contents, modes of teaching and learning, sequences, allocations of time or some other contextual variables. The variability of choices may be noted on a five point scale ranging from 1 - only one kind of suggested choices to 5 - many kinds of curriulum elements suggested for choice.

d) guidance for choice: Curriculum materials may provide teachers with guidance for choices to be made by them or may refrain from doing so. The amount of guidance to be found in the curriculum is noted on a 5 point scale, ranging from 1- few specifications of guidance for choices, to 5 - many specifications of guidance for choices.

A composite assessment scale of availability of choices for teachers in the curriculum is drawn up, taking into consideration all components mentioned above:

little teacher involvement in choices 1 (narrow scope, few opportunities, limited kind of choices, few guidance) _____ 5 much teacher involvement in choices (wide scope, many opportunities, various kind of choices, much guidance).

We didn't use O-value on the scale, since this value indicates perfect structured curriculum without any suggested choices like curricula relying totally on programmed materials.

Dimension two: Teachers' anticipated involvement in the development of curricular materials

The level of anticipated teacher involvement in the development of

curricular materials is assessed on a 5 degree scale as follows:

1 - teachers expected to develop teaching aids (such as transparents, games etc.)

2 - teachers expected to develop alternative learning activities

3 - teachers expected to develop supplementary, small curricular sub-units

4 - teachers expected to develop new large curricular units

5 - teachers expected to develop all their curricular materials

Using the descriptors curricula may be assessed on a continuum starting from Ø - no expected involvement at all up to 5 - on the scale - much involvement expected.

Category III - Teachers professional credibility in the developers' eyes

Teachers professional credibility in the eyes of curriculum developers is viewed as a crucial factor in the possible partnership between curriculum developers and teachers.

Two dimensions are used for analysis:

Dimension one: Teachers' image as subject matter experts.

Level of expressions of teachers' image as subject matter experts is noted on a 5 degree scale using the following descriptors for the poles.

1 - very low credit to the teacher expertise in the Subject-Matter area, Elaborated and detailed background subject matter information is provided to teachers.

5 - Teachers are viewed as experts in the subject matter area. Only scientific references and bibliographies are offered.

Dimension two: Teachers' image as pedagogic experts

Level of expressions of teachers' image as pedagogic experts is noted on a 5 degree scale using the following descriptors:

1 - Teachers are viewed as lacking pedagogic expertize. Detailed didactic guidance, connected to every unit of instruction, is provided to the teachers. Teachrs are approached in a strictly prescriptive style.

5 - Teachers are viewed as pedagogic experts. Didactic suggestions are defined in broad terms, mainly in a general introductive chapter. Teachers are approached in a collegial open style.

Category IV: Teachers' assigned role in instruction

Assigned teacher roles in the classroom may have far reaching consequences for the process of curriculum implementation. Curriculum materials were analyzed using the following role descriptors:

- instructional manager and organizer
- assisting in individual and/or group learning
- designer of learning environment
- socialization agent
- involvement in value education

The analysed curricula were assessed as expressing each role expectation on a five degree scale.

Determination of the appropriate point on each scale was carried out according to the descriptors and validated by two independent investigators.

The findings of the TIAP instrument applied on the six analysed programs were cross validated by interviewing the coordinators of the corresponding projects.

Sample of Curriculum Projects

Six curricula were analyzed using the analytic scheme described above. One in Physics - Chemistry and one in Mathematic for the junior high school level. Two curricula in the Humanities, one in Bible studies

for the elementary level and one in Bible studies for the junior high school. Two curriulum projects in Social sciences, one in Civics and one in Geography for the junior high school.

All these curricula were developed at the end of the sixties by central curriculum development bodies in the Ministry of Education and the Weizman Institute. All are widely used in the school system. All, except one are itended to be taught in 20-30 school periods. The Physics-Chemistry project includes 60 planned lessons. Each curriculum consists of students' textbooks, teaching aids and teacher guides. All guides have the same stucture: a short introduction for the teacher, about 3-6 pages long, followed by several chapters dealing specifically with the various components of the students materials. All introductions were analyzed, as well as a representative sample of the following chapters in each teacher guide.

The curricula investigated in this study represent the first "wave" of new curricula in Israel which were developed in the late sixties and they are still used in the schools.

Findings

Our report of findings is divided into three parts:

1) Information about developers considerations and deliberations regarding curricular decisions

2) Expected mode of teacher partnership in the curriculum enterprise

3) teachers' assigned roles in instruction

1) Information about developers considerations and deliberations regarding curricular decisions

Table no. 1 presents the information level index calculated for the investigated curriculum projects.

(Insert Table No. 1 about here)

The number of curricular decisions differ from curriculum to curriculum. The Bible curriculum project for junior high schools presents the smallest number of curricular decisions. In this case the teacher guide consists mainly of background subject matter information. The Physics-Chemistry curriculum project presents the largest number of decisions, this is a year long project encompassing about 60 lessons.

The overall information level index of the investigated curriculum projects rages from 0.18 to 0.85. Most decisions are in the areas of content and instructional strategies, the number of contextual decision being small.

Table no. 2 presents the sources of considerations accompanying curricular decisions.

(Insert Table No. 2 about here)

Considerations presented by curriculum developers as reasons underlying their curricular decisions stem mostly from the subject matter and learner commonplaces. In four curriculum projects the percentage of subject matter considerations is highest, whereas in two projects the highest percentage of considerations is related to the learner. Relatively few reasons for curriculum decisions are related to teachers and less to milieu. Only in the Physics-Chemistry and Geography projects developers explicitly present considerations of milieu as related to their curricular decisions.

2) Expected mode of teacher partnership in the curriculum enterprise

Table No. 3 presents findings related to the expected involvement of teachers in curriculum implementation and their credibility as experts in the eyes of curriculum developers.

(Insert Table No. 3 about here)

Analysis of teacher guides shows that curriculum developers expect teachers to act as choice makers, rather than as participants in development of their own curriculum materials. In the dimension of teachers as choice makers the values found range from Ø.75-3.6. Expression of the dimension of teachers as developers and autonomous creators were found in three projects only with a value of 1. Teachers credibility as pedagogic experts is rather high and ranges from 1-3, whereas their credilility as subject matter experts is low, ranging from 1-2 only.

3) Teachers' assigned roles in instruction

Fig. 1 presents in the form of a diagram the expected roles assigned to teachers in instruction, implementing the curriculum.

(Insert Fig. 1 about here)

In all curriculum projects, except in the Math curriculum, teachers are expected to manage and organize instruction. Teachers are responsibile for the successful interaction between the curriculum and the learner. Teachers' assisting individual and group learners is emphasized as well. Teachers are expected to intervene in the learning process, to identify learning difficulties and to assist learners to overcome these. Very little attention is given by developers to teacher's role as autonomous designer of the learning environment or to their role as socialization agents or nurturers of values.

Teacher Implementation Autonomy Profile (TIAP)

Fig. No. 2 presents a composite view of teachers implementation autonomy profile, as revealed by the analysis of teacher guides in various curriculum projects. This profile comprises the information level index, teacher's anticipated function in implementation as choice makers or

developers, as well as their image as subject matter and pedagogic experts.

(Insert Fig. 2 about here)

Discussion

The combination of data in a composite TIAP profile allows us to draw some conclusions regarding the various curriculum projects in our study. In spite of the differences between these projects they reflect common tendencies. It seems that these curricula represent a generation of curriculum development based on common assumptions and a shared curricular approach.

Information level index

The range of values on a 5 point scale is between 0.9-4.25 for different projects. For three curricula low indexes were determined. In these projects developers show little inclination to share their deliberations, considerations and legitimizations of curricular decisions with teachers. These three projects, in Math, Physics, Chemistry and Civics, were among the first "new" curricula to be developed in Israel in the late 60s. Curriculum developers presented teachers with detailed explanations how to implement the curricula, but did not seem to feel the need for revealing to teachers the reasons behind their curricular decisions. It may be that developers relied on the, then, accepted notion that it was necessary to replace traditional syllabi and programs with new, updated, and professionally constructed curricula. A different picture emerges from the analysis of the two Bible projects and the Geography curriculum. Developers of these projects provided teachers with many of their considerations and reasons for curricular decisions. Does this situation reflect a different stance of curriculum developers toward

teachers and their role as partners in curriculum decision making? Our attempt to answer this quesion highlights the difficulty of interpreting our data. Our assumption was that a high information level index allows teachers to adopt a more reflective and critical stance toward the externally developed curriculum making more informed and defensible decisions regarding curriculum implementation. In short, we tend to interpret such a high index as reflecting developers intention to promote teacher autonomy in curriculum matters. It seems that this is not necessarily so. Interviews with curriculum developers revealed that their intentions in providing teachers with insights into the process of curricular deliberations were different. The three projects with high information indexes were based on the introduction of innovative instructional strategies, such as discovery and inquiry learning. Curriculum developers thought that sharing their curricular considerations with teachers was a valid way for convincing them of the worth and importance of these innovations. Yet, interpreting a high information index as being conducive to teacher autonomy, is still a valid possibility. Any curriculum, the product of a development process, can be viewed as a creation, indepedent of the developers' intentions (Ben-Peretz 1975). A curriculum project which share with teachers, the basic assumptions, deliberations and considerations of its developers allows teachers to become refective critiques of that project. The potential of such a project to be used autonomously is thus heightened. It is necessary to inquire into teachers' perceptions of the different projects as well as into their actual uses of the curricula, in order to find out which interpretation is closer to the reality of implementation practices.

Examination of Fig. 2 shows that the three curriculum projects with a

high information level index possess also relatively high values in other areas related to teacher autonomy in curriculum implementation, such as choice opportunities incorporated in the materials. This situation may be viewed as creating an accumulating effect of more openess toward involving teachers as partners in the curriculum enterprise.

Teachers as choice makers or developers

It seems that the developers of the investigated curricula have adopted a view of teachers as choice makers (Connelly 1979). Two distinct groups of curricula can be distinguished one) a cluster of three projects with higher values (2 Bible projects and the Geography project) and a cluster of three projects with lower values (Physics-Chemistry, Math and Civics). In the first group, scope and amount of choice opportunities is much higher than in the second group. In contrast to the more or less positive view of teachers as choice makers which is explicitly expressed in the projects, one finds a different approach to teachers as developers and producers of curriculum materials. Even in the projects which reflect an open stance toward teacher partnership in the curriculum, only few opportunities for teachers to create their own materials are mentioned. In the geography project teachers are invited to construct "openings" to lessons, instead of relying on developers' suggestions. In the Bible projects it is suggested that teachers develop an activity dramatizing one of the Bible stories. It seems that the developers of all those six curricula adhered to the approach that curriculum development has to be carried out by professional centralized agencies, and not be school based in the hands of teachers.

There is no ground to assume that there is an inherent contradiction between the process of external development of curriculum materials, and

the involvment of teachers, who are to use these materials in the actual creation of units. There are many ways to produce half-products, leaving for teachers to create parts of the curriculum on their own. Thus, though it is practically possible to combine centralized curriculum construction with development tasks allocated to teachers, this is a rare phenomenon.

Teachers as experts

Examining the data (see Fig. 2) one gets the impression that curriculum developers do not think highly of teachers' expertise in the subject matter areas or in the pedagogic domain. Still, teachers seem to have greater credibility as pedagogues than as subject matter experts. The differences between the two groups of curriculum projects is noticeable. All teacher guides contain detailed answers to student questions, as well as background information on the topic to be learned. This may be part of the accepted structure of teacher guides at the time of development. In the projects which seem to be more open to teacher involvement one finds also other components, such as reference lists which can be viewed as expressions of a perception of teachers as peers in the subject matter area. Still, the interpretation of data is complicated. Thus, in the geography project teacher guide we find side by side detailed answers to students' questions and reference lists for teachers. The latter can be interpreted as reliance on teachers' expertise in the subject matter. On the other hand, giving teachers all answers to students questions reflects lack of confidence in their knowledge. Interviews with developers revealed that they had included the references because of their perception that teachers lacked so much subject matter knowledge that beyond the limited backgrund material given in the guide the teachers had to be guided to the additional proper sources. It seems that in the credibility category it is

possible to arrive at conclusions only if one of the poles of descriptors fully characterizes the curriculum. For instance finding detailed answers and information only, would justify an interpretation of lack of teacher credibility whereas bibliographies, reference lists and general statements about the subject matter, would justify an interpretation of high teacher credibility.

It seems natural that teachers' credibility as pedagogues is higher than their credibility as subject matter experts. General statements related to instructional strategies, written in a collegial and open style are found in the teacher guides. For instance in the geography project teacher guide the following statement is directed at the reader: "Thank you for reading patiently about things that are generally known by every teacher." Still, even in this dimension it is difficult to interpret the data. Mostly one finds a mixture of features, general statements are accompanied by detailed prescriptions of how to carry out instruction in the classroom. The more general statements may be meant to serve as an integration of the more specific comments throughout the teacher guide. As noted above, in the context of the information level index, teachers own interpretations of the message transmitted by the curriulum materials probably determine their implementation practices.

Teacher's role in instruction

The most highly stressed roles are those of instructional management and assisting in individual and group learning. In the teacher guides these roles are carefully described and explained. Teachers are informed aout the possible difficulties and are advised how to organize instruction and assist their students. As the investigated projects do not envision teachers as creators of curriculum materials, it is not surprising that

teachers are not expected to adopt the role of designing learning environments. It is astonishing that even in Bible studies and Civics projects teachers are not expected to adopt the role of value educators. A possible reason may be the general tendency of the "new" curricula to refrain from trying to mold the character of the students.

Summary

Analysis of a sample of curriculum projects representing the first generation of new curricula in Israel reveals an image of teachers as consumers of centrally developed curricula, who are expected to exercise limited autonomy in curriculum implementation mainly in choice making. The main responsibility assigned to teachers in these projects is to organize instruction so as to achieve curriculum objectives.

The TIAP instrument was found to be appropriate for disclosing how teachers and their role in the curriculum are reflected in the curriculum The instrument was found useful in differentiating between types of curricula. The elaboration of perceived components of teacher autonomy in curriculum implementation and the specification of some of the descriptors of these components provides some insights into the complex interaction between teachers and curricula. The main contribution of the analytic scheme is that it may raise the sensitivity of curriculum developers and teachers to factors in the curriculum matrials which may shape the nature of that interaction.

Curriculum development in Israel is moving from a centralized approach to greater involvement of teachers in the process. Curricula which meet this tendency have to be more open to teachers as partners in the development processes. The framework and methodology presented in this study may serve curriulum developers in reflecting about their attitudes

toward teacher involvement in these processes. Teacher education programs could benefit from curriculum analysis focusing on teachers' image in the curriculum.

Several questions are suggested for further research:

- Are teachers perceptions of curriculum materials congruent with the profile which emerges through use of the TIAP instrument?

- To what extent are teachers' practices influenced by their image in the curriculum?

- What differences in teacher implementation autonomy profiles can be detected in different cultures and at different times?

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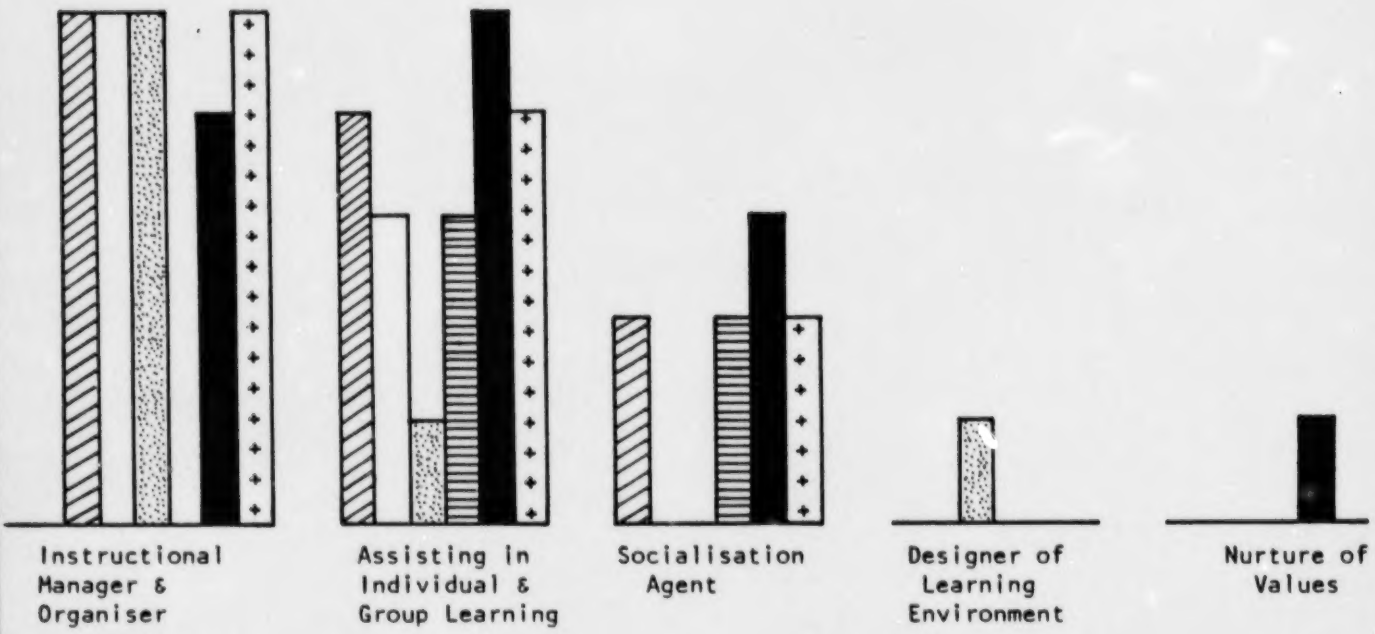
Fig. 1 Teachers' Roles in Instruction



Key:

- Bible E.S.
- Bible J.H.
- Civics J.H.
- Math J.H.
- Physics-Chemistry J.H.
- Geography J.H.

Fig. 2 TEACHERS' IMPLEMENTATION AUTONOMY PROFILE (TIAP)

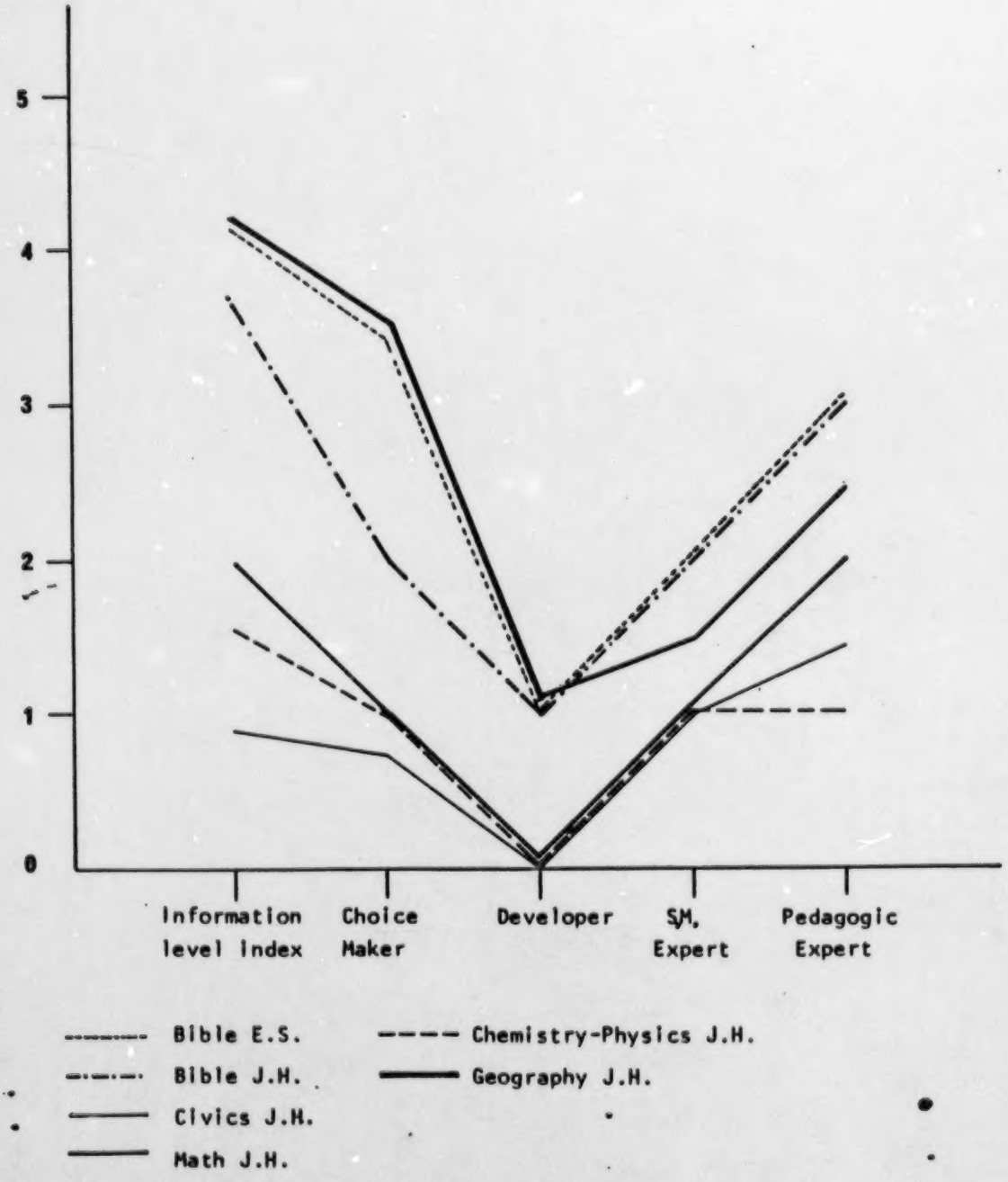


Table I: Information level index of consideration and reasons for curriculum decisions

Information Level / Index / Curriculum Project	No. of Content Decisions	Index	No. of Instructional Strat. Decisions	Index	No. of Contextual Decisions	Index	No. of Decisions (Total)	Index	Value on Scale of 5
Bible E.S.	36	0.83	38	0.85	I	I	75	0.84	4.20
Bible J.H.	15	0.90	I8	0.55	3	I	36	0.75	3.75
Civics J.H.	38	0.I8	25	0.2	2	0	65	0.I8	0.90
Math J.H.	55	0.44	42	0.40	9	0.II	I06	0.39	2.00
Physics - Chemistry J.H.	83	0.27	I09	0.27	3I	0.7I	223	0.32	I.60
Geography J.H.	32	0.80	4I	0.87	II	0.90	84	0.85	4.25

Key: E.S. - Elementary School

J.H. - Junior High School

Information level index from 0.0I to I.00

Table 2: Distribution of Sources of Considerations Underlying Curricular Decisions

Sources / Curricular Project	Subject	Learner	Teacher	Milieu	Other	N
Bible E.S.	49%	50%	I%	-	-	63
Bible J.H.	63%	28%	7%	-	-	27
Civics J.H.	23.2%	53.8%	23%	-	-	I[illegible]
Math J.H.	52.5%	45.5%	2.5%	-	-	42
Physics - Chemistry J.H.	47%	36%	7%	I0%	-	74
Geography J.H.	3I%	58%	4%	7%	-	72

Key: E.S. - Elementary School
J.H. - Junior High School
N - Number of considerations

Table 3: Expected mode of teacher partnership in the curriculum enterprise

(Values on scale of 5)

Teachers image as: / Curriculum Project	Choice Maker	Developer	S.M. Expert	Pedagogic Expert
Bible E.S.	3.5	I	2	3
Bible J.H.	2	I	2	3
Civics J.H.	0.75	0	I	I.5
Math J.H.	I	0	I	2
Physics - Chemistry J.H.	I	0	I	I
Geography J.H.	3.6	I	I.5	2.5

Key: E.S. - Elementary School
J.H. - Junior High School

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